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10/537,128	06/02/2005	Johannus Leopoldus Bakx	NL021305	8392
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PHILIPS INTELLECTUAL PROPERTY & STANDARDS P.O. BOX 3001 BRIARCLIFF MANOR, NY 10510			EXAMINER ALI, FARHAD	
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			2146	
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/537,128

**Applicant(s)**

BAKX, JOHANNUS LEOPOLDUS

**Examiner**

FARHAD ALI

**Art Unit**

2146

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 November 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 8-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 8-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f):
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoeven (US 6,765,858 B2), in view of Pringle (US 4,791,668 A).

### **Claim 1**

Hoeven discloses an arrangement for reading an information carrier, said arrangement comprising;

a read head for scanning the information carrier along a scanning path and thereby generating one or more electrical signals in response to a pattern recorded along the scanning path ([Hoeven] Column 2 Lines 29-31, "a read head 4 for scanning the information carrier 2 along a scanning path and thus generating one or more electric signals");

a signal processing unit for processing the one or more electrical signals; and electrical conductors for conveying the one or more electrical signals to the signal processing unit, ([Hoeven] Column 2 Lines 64-67, "The arrangement further includes

Art Unit: 2146

electrical conductors 6 for transferring the one or more electric signals  $V_{\text{sub.A-D}}$  to a signal processing unit 8”),

wherein the read head performs the scanning by transmitting a radiation beam to the information carrier and receiving a reflected beam to the information carrier, wherein the arrangement further comprises measuring means for measuring the reflectance of the radiation beam ([Hoeven] Column 2 Lines 42-63, “In the present example, the imaging means comprise a convergent lens 42 and a focusing objective 43 to image the radiation beam generated by the radiation source 41 as a scanning spot. Furthermore, a semitransparent mirror 45 is interposed between the convergent lens 42 and the focusing objective 43. Radiation which is reflected from the scanning spot 44 is imaged onto an optical detector 47 via the focusing objective 43, the semitransparent mirror 45 and an astigmatic element 46. The optical detector 47, shown in more detail in FIG. 3, comprises four sub-detectors 47.sub.A, 47.sub.B, 47.sub.C and 47.sub.D. The four sub-detectors 47.sub.A-D each generate a current signal  $i_{\text{sub.A}}$ ,  $i_{\text{sub.B}}$ ,  $i_{\text{sub.C}}$ ,  $i_{\text{sub.D}}$  which is indicative of an intensity of the radiation that is incident on the relevant sub-detector”).

Hoeven does not disclose the arrangement further comprises controllable termination means for terminating at least one electrical conductor with a selectable impedance, the controllable termination means comprising at least two impedances and selecting means for selecting an impedance to terminate the at least one electrical conductor, and wherein the controllable termination means selects an impedance dependent on the measured reflectance of the radiation beam.

Pringle Discloses: Column 1 Lines 5-9, "The invention is concerned with electronic transmission and reception of signals via a transmission line and more particularly pertains to interface circuits which are adaptable to provide more than one terminating or source impedance" and Column 2 Lines 18-21, "A switching device includes at least n switching elements being connected between n of the resistor elements and an input of an amplifier".

It would have been obvious to one of ordinary skill in the art to utilize Hoeven's arrangement for reading an information carrier with Pringle's selectable impedance line interface circuit. Hoeven teaches utilizing a high impedance for data read at comparatively high data speeds in order to counteract reflectance of the radiation beam ([Hoeven] Column 1 Lines 25-33, "At high read speeds, for example 10 to 20xDVD, disturbing reflections may appear at the input of the signal processing unit, as a result of which the signals conveyed via the flexible cable are unreliable. The reflections can be counteracted by terminating the respective conductors of the flexible cable with a resistive impedance near the input of the signal processing unit"). Pringle teaches a circuit which can provide more than one terminating impedance to a given signal. It is desirable to use the proper impedance when reading data using different techniques, therefore it is obvious to have a means for selecting the proper impedance.

### **Claim 2**

Hoeven does not disclose the arrangement as claimed in claim 1 characterized in that the signal processing unit comprises the controllable termination means.

Art Unit: 2146

Pringle Discloses: Column 1 Lines 5-9, "The invention is concerned with electronic transmission and reception of signals via a transmission line and more particularly pertains to interface circuits which are adaptable to provide more than one terminating or source impedance" and Column 2 Lines 18-21, "A switching device includes at least n switching elements being connected between n of the resistor elements and an input of an amplifier".

It would have been obvious to one of ordinary skill in the art to utilize Hoeven's arrangement for reading an information carrier with Pringle's selectable impedance line interface circuit. Hoeven teaches utilizing a high impedance for data read at comparatively high data speeds in order to counteract reflectance of the radiation beam ([Hoeven] Column 1 Lines 25-33, "At high read speeds, for example 10 to 20xDVD, disturbing reflections may appear at the input of the signal processing unit, as a result of which the signals conveyed via the flexible cable are unreliable. The reflections can be counteracted by terminating the respective conductors of the flexible cable with a resistive impedance near the input of the signal processing unit"). Pringle teaches a circuit which can provide more than one terminating impedance to a given signal. It is desirable to use the proper impedance when reading data using different techniques, therefore it is obvious to have a means for selecting the proper impedance.

**Claim 3**

Hoeven does not disclose the arrangement as claimed in claim 1, characterized in that the controllable termination means are able to terminate two or more electrical conductors with different selectable impedances.

Pringle Discloses: Column 1 Lines 5-9, "The invention is concerned with electronic transmission and reception of signals via a transmission line and more particularly pertains to interface circuits which are adaptable to provide more than one terminating or source impedance" and Column 2 Lines 18-21, "A switching device includes at least n switching elements being connected between n of the resistor elements and an input of an amplifier".

It would have been obvious to one of ordinary skill in the art to utilize Hoeven's arrangement for reading an information carrier with Pringle's selectable impedance line interface circuit. Hoeven teaches utilizing a high impedance for data read at comparatively high data speeds in order to counteract reflectance of the radiation beam ([Hoeven] Column 1 Lines 25-33, "At high read speeds, for example 10 to 20xDVD, disturbing reflections may appear at the input of the signal processing unit, as a result of which the signals conveyed via the flexible cable are unreliable. The reflections can be counteracted by terminating the respective conductors of the flexible cable with a resistive impedance near the input of the signal processing unit"). Pringle teaches a circuit which can provide more than one terminating impedance to a given signal. It is desirable to use the proper impedance when reading data using different techniques, therefore it is obvious to have a means for selecting the proper impedance. It is

Art Unit: 2146

furthermore obvious to duplicate the selectable impedance line interface circuit in order to handle multiple signals as doing so produces a predictable result.

#### **Claim 4**

Hoeven does not disclose an arrangement as claimed in claim 1, characterized in that the selectable impedance comprises a characteristic impedance of the electrical conductors.

Pringle Discloses: Column 1 Lines 38-41, "A line interface circuit may be adaptable to more than one characteristic impedance by providing metallic contact switches for selecting any one of a plurality of terminating resistances".

It would have been obvious to one of ordinary skill in the art to utilize Hoeven's arrangement for reading an information carrier with Pringle's selectable impedance line interface circuit. Hoeven teaches utilizing a high impedance for data read at comparatively high data speeds in order to counteract reflectance of the radiation beam ([Hoeven] Column 1 Lines 25-33, "At high read speeds, for example 10 to 20xDVD, disturbing reflections may appear at the input of the signal processing unit, as a result of which the signals conveyed via the flexible cable are unreliable. The reflections can be counteracted by terminating the respective conductors of the flexible cable with a resistive impedance near the input of the signal processing unit"). Pringle teaches a circuit which can provide more than one terminating impedance to a given signal. It is desirable to use the proper impedance when reading data using different techniques, therefore it is obvious to have a means for selecting the proper impedance.



Furthermore, Pringle discloses using a characteristic impedance in the line interface circuit.

### **Claim 5**

Hoeven discloses the arrangement as claimed in claim 4, characterized in that the controllable termination means are able to select the characteristic impedance when reading the information carrier at a relatively high speed and select a higher impedance when reading the information carrier at a relatively low speed.

Pringle Discloses: Column 2 Lines 32-35, "A control means is connected to the switching device for controlling each of the switching elements to be of one of a high resistance state and a lower resistance state".

It would have been obvious to one of ordinary skill in the art to utilize Hoeven's arrangement for reading an information carrier with Pringle's selectable impedance line interface circuit. Hoeven teaches utilizing a high impedance for data read at comparatively high data speeds in order to counteract reflectance of the radiation beam ([Hoeven] Column 1 Lines 25-33, "At high read speeds, for example 10 to 20xDVD, disturbing reflections may appear at the input of the signal processing unit, as a result of which the signals conveyed via the flexible cable are unreliable. The reflections can be counteracted by terminating the respective conductors of the flexible cable with a resistive impedance near the input of the signal processing unit"). Pringle teaches a circuit which can provide more than one terminating impedance to a given signal. It is desirable to use the proper impedance when reading data using different techniques,

Art Unit: 2146

therefore it is obvious to have a means for selecting the proper impedance.

Furthermore, Pringle discloses using a characteristic impedance in the line interface circuit. It is desirable to use the proper impedance when reading data using different techniques, therefore it is obvious to have a means for selecting the proper impedance i.e. characteristic (low) impedance for a high reading speed or a high impedance for a low reading speed.

### **Claim 6**

Hoeven discloses the arrangement as claimed in claim 1, characterized in that one or more of the electrical signals are current outputs and in that the selectable impedance functions as a current to voltage converter ([Hoeven] Column 2 Lines 63-64, "A current-voltage converter 48 converts the current signals  $i_{\text{sub.A-D}}$  into voltage signals  $V_{\text{sub.A-D}}$ ").

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoeven (US 6,765,858 B2) as in view of Pringle (US 4,791,668 A), and further in view of Park (US 5,058,130 A).

**Claim 8**

Hoeven discloses an arrangement for reading an information carrier, said arrangement comprising:

A read head for scanning the information carrier along a scanning path and thereby generating one or more electrical signals in response to a pattern along the scanning path ([Hoeven] Column 2 Lines 29-31, "a read head 4 for scanning the information carrier 2 along a scanning path and thus generating one or more electric signals");

a signal processing unit for processing the one or more electrical signals; and  
electrical conductors for conveying the one or more electrical signals to the signal processing unit ([Hoeven] Column 2 Lines 64-67, "The arrangement further includes electrical conductors 6 for transferring the one or more electric signals V.sub.A-D to a signal processing unit 8"),

Hoeven does not disclose that the arrangement further comprises controllable termination means for terminating at least one electrical conductor with a selectable impedance, the controllable termination means comprising at least two impedances and selecting means for selecting an impedance to terminate the at least one electrical conductor, and at least one electrical conductor is terminated with a

Art Unit: 2146

selectable impedance which is selected by optimizing one or more parameters of the electrical signal conveyed by the at least one electrical conductor.

Pringle Discloses: Column 1 Lines 5-9, "The invention is concerned with electronic transmission and reception of signals via a transmission line and more particularly pertains to interface circuits which are adaptable to provide more than one terminating or source impedance" and Column 2 Lines 18-21, "A switching device includes at least n switching elements being connected between n of the resistor elements and an input of an amplifier".

Park discloses a digital technique for achieving minimal occurrence of jitter, overshoot and undershoot in an output waveform in the filter for digital transmission ([Park] Column 1 Lines 11-15).

It would have been obvious to one of ordinary skill in the art to utilize Hoeven's arrangement for reading an information carrier with Pringle's selectable impedance line interface circuit and Park's digital filtering technique. Hoeven teaches utilizing a high impedance for data read at comparatively high data speeds in order to counteract reflectance of the radiation beam ([Hoeven] Column 1 Lines 25-33, "At high read speeds, for example 10 to 20xDVD, disturbing reflections may appear at the input of the signal processing unit, as a result of which the signals conveyed via the flexible cable are unreliable. The reflections can be counteracted by terminating the respective conductors of the flexible cable with a resistive impedance near the input of the signal processing unit"). Pringle teaches a circuit which can provide more than one terminating impedance to a given signal. It is desirable to use the proper impedance when reading

Art Unit: 2146

data using different techniques, therefore it is obvious to have a means for selecting the proper impedance. Furthermore, incorporating Park's filtering techniques to select the desired impedance is obvious to one of ordinary skill in the art as it teaches a necessary step needed to select the proper impedance and produces predictable results.

**Claim 9, 10, and 11**

Claims 9, 10, and 11 are rejected for the reasons stated in Claim 8 above.

***Response to Amendment***

5. The arguments/remarks filed on 11/20/2007 under 37 CFR 1.131 have been considered but are ineffective to overcome the references.

Regarding claim 1, in Applicants arguments/remarks, "Applicant submits that the Examiner is mistaken. In particular, while Hoeven arguably discloses means for measuring the reflectance of the radiation beam, there is no disclosure or suggestion in Hoeven that this measured reflectance of the radiation beam is related to the reading speed. What is related to the reading speed is the amount of reflectance in the signal line, i.e., at higher signal rates (due to higher reading speed), there may occur reflectance of the signal in the signal lines leading to inaccuracies in the signal processing. This is described in the subject specification on page i, line 25 to page 2, line 2. However, the noted limitation in claim 1 refers to controlling the impedance based

on the reflectance of the radiation beam on the record carrier. This is described in the specification on page 3, line 25 to page 4, line ii.

([Hoeven] Column 1 Lines 25-33, "At high read speeds, for example 10 to 20xDVD, disturbing reflections may appear at the input of the signal processing unit, as a result of which the signals conveyed via the flexible cable are unreliable. The reflections can be counteracted by terminating the respective conductors of the flexible cable with a resistive impedance near the input of the signal processing unit").

Applicant states "there is no disclosure or suggestion in Hoeven that this measured reflectance of the radiation beam is related to the reading speed"

In Column 1 Lines 25-33, Hoeven clearly relates disturbing reflections with data read at high read speeds, and would be understood by one of ordinary skill in the art to be related.

Regarding claim 8, in Applicants arguments/remarks, "Claim 8 includes the limitation "at least one electrical conductor is terminated with a selectable impedance which is selected by optimizing one or more parameters of the electrical signal conveyed by the at least one electrical conductor". "Applicant submits that this does not make any sense. While Park discloses a jitter equalizer which reduces jitter, there is no suggestion as to what this has to do with selecting the appropriate impedance."

Examiner asserts that the motivation for selecting an appropriate impedance comes from Hoeven in view of Pringle. Park teaches a digital technique for achieving minimal occurrence of jitter, overshoot and undershoot in an output waveform in the

Art Unit: 2146

filter for digital transmission. Combining this technique with the motivation for selecting an appropriate impedance would yield a technique for achieving minimal occurrence of jitter, overshoot and undershoot in an output waveform via the use of a selectable impedance.

### ***Conclusion***

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to FARHAD ALI whose telephone number is (571)270-1920. The examiner can normally be reached on Monday thru Friday, 7:30am to 5:00pm.

Art Unit: 2146

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey C. Pwu can be reached on (571) 272-6798. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

F.A.



JEFFREY PWU  
SUPERVISORY PATENT EXAMINER